

TWO NEW SPECIES OF *COLOBOMATUS* (COPEPODA:
CYCLOPOIDA) PARASITIC ON PACIFIC FISH

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The two new species of *Colobomatus* described below were discovered and given to me for study by Drs. Victor Springer and Bruce Collette. In appreciation for bringing these interesting parasites to my attention the copepods are named for their discoverers.

The species reported here bring the total known species of *Colobomatus* to 30. The rather secretive habits of these parasites, dwelling in the lateral line canals of the hosts, lead me to believe that careful examination of this microhabitat would produce many more new species.

I thank Hillary Boyle for assisting in the preparation of the figures and Dr. Robert Lavenberg of the Los Angeles County Museum for sending me additional specimens of infested *Cryptotrema corallinum* Gilbert.

Colobomatus springeri, new species
Figs. 1-4

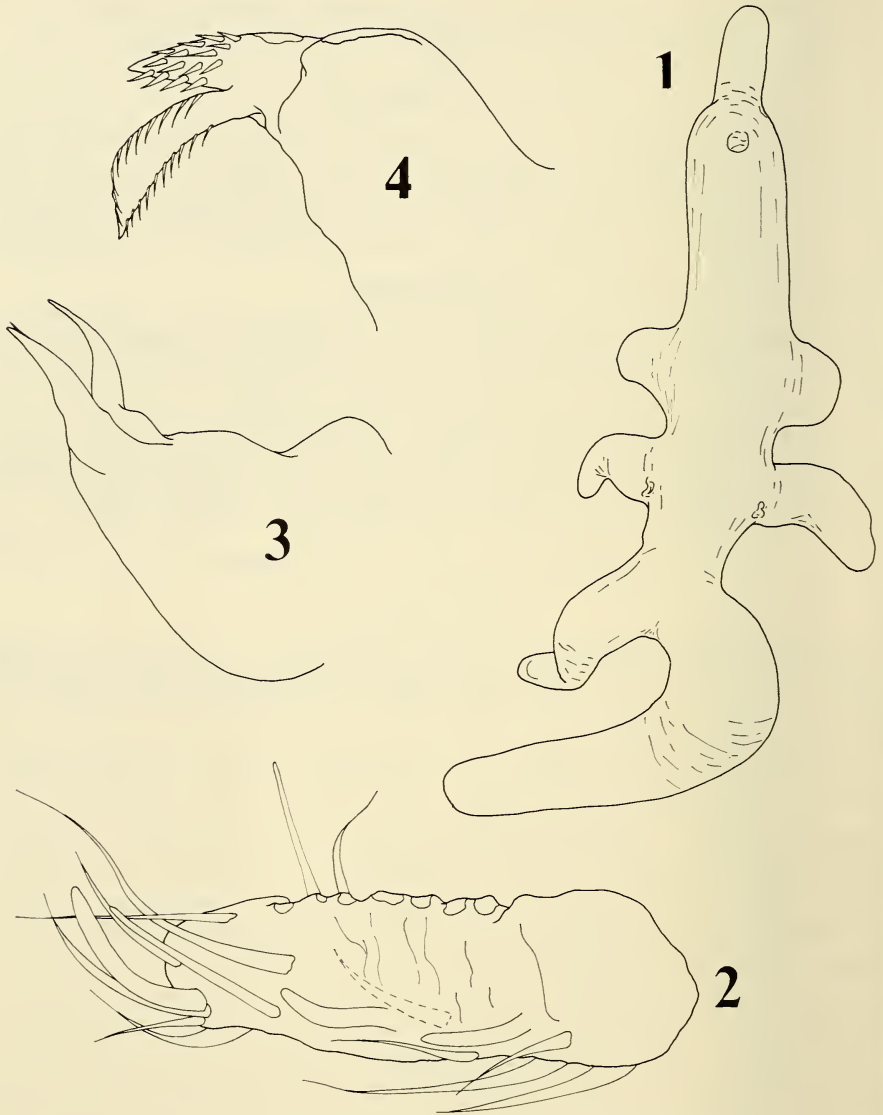
Material studied.—Holotype ♀ (USNM 168914), 13 ♀♀ paratypes (USNM 168915) parasitic in the interorbital canals of 15 *Cryptotrema corallinum* Gilbert (Clinidae) from off Santa Catalina Is., California, 25 April 1958 (LACM 22663 & 22659).

Female.—Body form as in Fig. 1. Total length 2.25 mm. Greatest width 0.75 mm (measured across widest lateral processes). Preoral area of cephalon unilobed. Thoracic segments fused. Lateral processes associated with thoracic segments 4 and 5 (according to Delamare Deboutteville, 1962) single, each consisting of 1 broad, short process on either side. Lateral processes of genital segment (first abdominal segment of Delamare Deboutteville) single and well developed, one process always larger than other. Abdomen indistinct. Caudal rami well developed with one ramus considerably larger than other causing the animal to be noticeably asymmetrical.

First antenna (Fig. 2) small, segmentation indistinct, armed with several setae as indicated in figure. Oral area small and of usual form for the genus. Mandible (Fig. 3) a fleshy lobe bearing distally 2 weakly sclerotized processes. First maxilla, if present, not seen. Second maxilla (Fig. 4) somewhat more sclerotized than mandible; consisting of a basal segment and a short terminal segment armed with 2 spinose processes; shorter process covered with stout spinules; longer process armed with 2 rows of fine spinules. Maxilliped absent.

No other appendages could be seen.

Egg sacs long; easily broken when copepod removed from host.



Figs. 1-4. *Colobomatus springeri*, female: 1, Ventral; 2, First antenna; 3, Mandible; 4, Second maxilla.

Male.—unknown.

Etymology.—The copepod is named for Dr. Victor Springer who brought this interesting new species to my attention.

Remarks.—The peculiar asymmetrical form of this species easily separates

it from all known species of *Colobomatus*. The single anterior cephalic lobe further separates it from all species except *C. goodingi* Cressey & Collette and *C. muraenae* (Richiardi). *Colobomatus springeri* can be separated from *C. goodingi* by the absence of a posterior lobe between the caudal rami (present in *C. goodingi*). It can be separated from *C. muraenae* as well as all other described species by the nature of the first pair of lateral processes. In all known species except *C. springeri* the first pair of lateral processes are bifurcate (each bearing 2 horns). In *C. springeri* these processes are without the usual anterior/posterior horns. In all other described species the lateral processes of the genital segment are smaller than those of the thoracic segment. Those of *C. springeri* are larger and, as in the case of the caudal rami, they are unequal in size.

Colobomatus collettei, new species

Figs. 5-9

Material studied.—Holotype ♀ (USNM 168916) and 4♀ paratypes (USNM 168917), parasitic in the interorbital canals of 5 *Hemiramphus robustus* Gunther (USNM 212041) collected by J. E. McCosker, 17 Dec. 1972 from McCluer Gulf off New Guinea (2°30'S, 132°30'E).

Female.—Body form as in Fig. 5. Total length 2.63 mm. Greatest width 0.88 mm (measured across widest lateral processes). Preoral area bilobed (Fig. 6). Oral area projecting ventrally on a conical base. Two pairs of lateral processes associated with thoracic segments 4 and 5, anterior pair smaller than posterior. Lateral processes of genital segment well developed. Posterior abdominal lobe projecting well beyond caudal rami.

First antenna (Fig. 7) 33 μm long, indistinctly segmented, armed with setae as indicated in the figure, several setae long and hairlike.

Oral area very small (60 μm wide) with second maxilla visible within (Fig. 8), bearing a toothed terminal process, a shorter distal seta, and a small patch of setules on basal segment. Details of other oral appendages could not be seen.

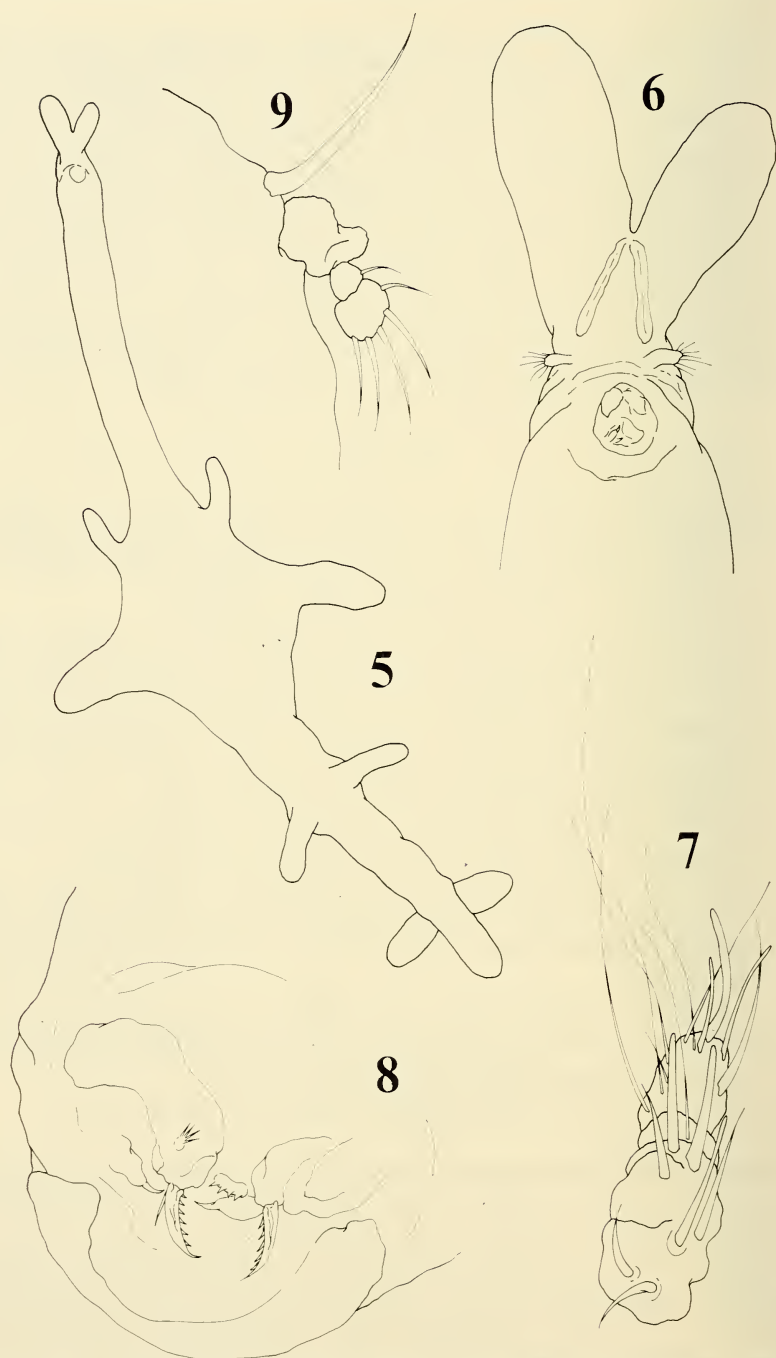
Leg 1 (Fig. 9), scarcely visible under highest magnification (1,500×), appearing to be uniramous, 2-segmented and bearing setae as indicated in figure. No other thoracic appendages could be seen.

Egg sacs of usual form, easily broken when removed from host.

Male.—Unknown.

Etymology.—This species is named for Dr. Bruce Collette who discovered the parasite during his studies on the halfbeak host.

Remarks.—This new species can be separated from all known species of *Colobomatus* except *C. haeckeli* (Richiardi), *C. goodingi* Cressey and Collette, and *C. exilis* Izawa by the presence of a prominent posterior lobe between the caudal rami on the new species. *Colobomatus goodingi* is unilobed anteriorly separating it from *C. collettei*. It can be separated from *C.*



Figs. 5-9. *Colobomatus collettei*, female: 5, Ventral; 6, Cephalon, ventral; 7, First antenna; 8, Oral area; 9, Leg 1.

haeckeli by the long necklike form of the anterior third of the body of *C. collettei*. In *C. exilis* the lateral processes of thoracic segments 4 and 5 are of equal length. In the new species the anterior pair are much smaller than the posterior.

Literature Cited

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